

SEA SPIDERS (PYCNOGONIDA) FROM THE GREAT BARRIER REEF, AUSTRALIA, FEED ON FIRE CORALS AND ZOANTHIDS. *Memoirs of the Queensland Museum* 46(2): 656. 2001.-Tropical sea spiders have been scarcely studied and associations between pycnogonids and reef organisms are rarely reported. The possibility of sea spiders feeding on scleractinian corals had been suggested once (Child, 1998) but no evidence had been presented for either fire corals or zoanthids as prey of sea spiders before.

This note reports the occurrence and feeding activity of the pycnogonid *Endeis* on the fire coral *Millepora exaesa* (Class Hydrozoa) and species of Zoanthidea (Class Anthozoa) from Rib Reef, Pandora Reef and Goold Island in the central section of the Great Barrier Reef. This is the first report on coral reef sea spiders feeding activity, and is based on both field and laboratory observations.

Adults of *Endeis mollis* (32 individuals) were found on different colonies of *Millepora exaesa* (Fig. 1) at Rib Reef (6-9m depth). On several occasions, the sea spiders were observed feeding on the coral inserting the tip of the proboscis into a coral polyp and remaining attached for about 60 sec. Individuals of *E. mollis* were also observed feeding on *Palythoa caesia* and crawling on a *Parazoanthus* sp. at Rib Reef.

Related *Endeis biseriata*, was found in the reef flat of Goold Island and Pandora Reef (2-4m depth). Twenty-two adults of *E. biseriata* were found on *Protopalpythoa* sp. Similar feeding activity to that of *E. mollis* was observed in some individuals of *E. biseriata* at both sites.

The relative high number of *E. mollis* on the coral *Millepora exaesa* and of *E. biseriata* on the zoanthid *Protopalpythoa* sp. suggest a preference by the *Endeis* spp. for

these hosts, at least at the reefs visited. Observations made under captive conditions in the laboratory with the aid of a low light video camera corroborated the sequence of movements observed in the field and more importantly, the ingestion of cnidarian tissue by the sea spiders. Some pycnogonids are known to sequester and accumulate metabolites from prey, apparently to be used as defence (Sheerwood et al., 1998). It remains to be studied whether this association between *Endeis* spp. and cnidarians from the Great Barrier Reef could be chemically mediated, since *Millepora* and zoanthids in general, are known for their high concentration of toxins (Fossá & Nilsen, 1998).

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Literature Cited

- CHILD, A. 1998. *Nymphon torulum*, new species and other Pycnogonida associated with the coral *Oculina varicosa* on the east coast of Florida. *Bulletin of Marine Science* 63: 595-604.
- FOSSA, S.A. & NILSEN, A.J. 1998. The modern coral reef aquarium. (Birgit Schmettkamp Verlag: Bornheim).
- SHEERWOOD, J., WALLS, J.T. & RITZ, D.A. 1998. Amathamide alkaloids in the pycnogonid, *Stylopallene longicauda*, epizoic on the chemically defended bryozoan, *Amathia wilsoni*. *Papers and Proceedings of the Royal Society of Tasmania* 132: 65-70.

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FIG. 1. Underwater photograph of *Endeis mollis* (Pycnogonida) on the fire coral *Millepora exaesa*.